Transportation Synthesis Report

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Roundabouts and Public Acceptance

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Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WisDOT technical staff in highway development, construction and operations. Online and print sources include NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs, and related academic and industry research.

REQUEST FOR REPORT

The safety and efficiency of modern roundabouts have been well documented. In one case, researchers at Ryerson Polytechnic University, the Insurance Institute for Highway Safety (IIHS) and the University of Maine studied crashes and injuries at 24 intersections in eight states before and after construction of roundabouts. The study found a 39 percent overall decrease in crashes and a 76 percent decrease in injury-producing crashes. Collisions involving fatal or incapacitating injuries fell as much as 90 percent. These findings are consistent with those from other countries where roundabouts have been used extensively for decades, and are consistent with preliminary studies of U.S. roundabouts. (From IIHS Status Report May 13, 2000, p.2 at http://www.hwysafety.org/srpdfs/sr3505.pdf) The number of roundabouts in this country is expected to increase geometrically in the next decade.

Despite the compelling advantages, it's not easy to win initial public support for roundabouts. To many, the idea of replacing four-way signaling with a roundabout seems like replacing hot dogs with crepes at the ballpark. Also, the prospect of driving a roundabout for the first time can be intimidating. The RD&T Program was asked to look at the methods other transportation agencies have used to introduce the concept of roundabouts to communities; generate public acceptance; and teach drivers, bicyclists and pedestrains how to use roundabouts safely.

SUMMARY

Our search of major transportation Web sites for information on the topic identified studies of the public acceptance issue prepared by the Federal Highway Administration (FHWA) and the National Cooperative Highway Research Program (NCHRP). Excerpts are presented below in Part A.

We contacted a number of state DOTs that have implemented roundabouts to learn about their "front line" experiences with public acceptance and promotion. These findings appear below in Part B.

Finally, in Part C, we distill these findings into a marketing guide to serve as a helpful resource to state DOT staff who need to promote a roundabout plan to the public.

PART A- PERSPECTIVES ON PUBLIC ACCEPTANCE

Modern Roundabout Practice in the United States, NCHRP Synthesis 264
http://gulliver.trb.org/publications/nchrp/nchrp_syn_264.pdf
This report presents information on current practices with respect to the planning, design and operation of modern roundabouts in the U.S. In the spring of 1997, a survey was conducted to learn about the status of roundabouts in North America, and about the experience and perceptions of local and state transportation agencies concerning their

use. A questionnaire was mailed to each state DOT in the U.S., to each province in Canada, and to 26 U.S. municipalities and counties known to have roundabouts. Among its questions, the survey asked respondents what the public attitude was toward roundabouts before and after construction. Chapter 3 of the report—**"Public Acceptance of Roundabouts"**—provides a close look at responses to that question. In all but one case, the public attitude toward roundabouts improved after construction. Nearly 70 percent of the respondents reported negative or very negative public feelings toward roundabouts before construction. More than 70 percent reported a positive or very positive attitude following construction. Appendix C of the synthesis provides examples of roundabout public information leaflets created by the Maryland State Highway Administration and the Vail, CO Department of Public Works and Transportation. Appendix E presents media articles that report on the bumpy road to public acceptance for a roundabout in Lisbon, MD.

***Roundabouts: An Informational Guide*,** FHWA-RD-00-67, June 2000
http://www.tfhrc.gov/safety/00068.htm
Click on Chapter 2, then click on section 2.5 Public Involvement in the Bookmarks panel for a discussion of public meetings, informational brochures and videos, and media announcements.

"**Public acceptance** of roundabouts has often been found to be one of the biggest challenges facing a jurisdiction that is planning to install its first roundabout. Without the benefit of explanation or first-hand experience and observation, the public is likely to incorrectly associate roundabouts with older, nonconforming traffic circles that they have either experienced or heard about. Equally likely, without adequate education, the public (and agencies alike) will often have a natural hesitation about, or resist, changes in their driving behavior and driving environment. In such a situation, a proposal to install a roundabout may initially experience a negative public reaction."

PART B- HOW STATE DOTS OVERCAME THE BARRIERS

In this sampling of state DOTs, the most successful promotional efforts have elements in common:

- Foresight and careful planning
- Meetings with the public on their own turf
- Visual aids during presentations
- Partnering with the press for education and awareness

Florida DOT
James Bennett, District 2 Roadway Design Project Manager
james.bennett@dot.state.fl.us

- Presentations to local government, Public Works, civic groups, school personnel, general public; PowerPoint; video; aerial photos; open houses.

"I recently completed the design of a roundabout (single lane) in the northeast Florida community of Live Oak. It is located at a five-leg intersection that resulted in very long delays as a signalized intersection. Construction is about 90 percent complete (November 2002), and the intersection has been functioning as a circular intersection for a couple of months.

"From the beginning, we had a couple of things working for us. The local government, including the mayor, generally favored the roundabout. The location was good—the users would be by and large 'regulars,' commuters who would use the roundabout daily.

"When FDOT started the planning, the designer and I went to the local government, showed them the concepts and talked about the need to move some utilities. The local government helped us with some of the early issues and put out some fires. I presented to the local public works department, and to civic groups like the Kiwanis and local Chamber. I also put on some open-house meetings in the area. I wanted to be honest with the public. This roundabout was expected to have some backups and delays during peak hours, and I wanted to be up front with them about that. If you decide to do some presentations as part of your outreach, you don't have to get fancy. All you really need is a wall and a white screen, and the willingness to dialogue. I had a PowerPoint I developed that modeled how traffic would flow at the intersection. I also showed an excellent video produced by Kansas DOT that demonstrated how to use a roundabout. I had some aerial photos of the intersection that I was able to lay over drawings of the roundabout to help people visualize the change.

"I started to see the same people show up for two or three meetings, warming up to the idea of roundabouts, and getting some savvy about the whole thing. That got me excited. Those were the folks who might put in a good word or two about roundabouts when talking with friends, and that would build positive momentum.

"We also got the opportunity to present before the 75 or 80 school bus drivers who would be using the intersection. School administrators were very helpful in passing word about the roundabout through the schools. Driver education teachers were asked to tell their students—and we all figured the kids would help bring their parents up to speed.

"In the final analysis, not everyone was happy to see the roundabout going in. When we were out there clearing and grubbing the site, some folks drove by with some pretty negative comments. But if you visit the site today, drivers will give you a thumbs up and a smile."

Kansas DOT
David Church, State Traffic Signing Engineer
Church@ksdot.org
- Public meetings; brochure; videos; design boards; driver alert cards.

"We now have 18 roundabouts in operation and about 20 either in the planning or design stage. These are roundabouts both on and off the state highway system.

"Initially we put together an informational pamphlet on roundabouts. It has general information about what they are, why we are building them and how to drive them. For a pair of roundabouts that are part of an interstate interchange, we put together a project-specific roundabout video. It can be used as a general video if you cut the intro and ending portions. We are in the process of finishing a General Roundabout Video for Kansas (to be completed in November 2002). We put together 'driver alert' cards on how to drive roundabouts as well as how to walk or ride a bike through one. The project-specific video and printed information are working well.

"We have had mixed results with trying to get the public involved in roundabout projects. The first few were met with great resistance and one public meeting almost got out of control. We had set up a meeting for people to come through and look at design boards, watch videos, look at printed material and answer questions, and they demanded a formal presentation after it started. They accused us of running an experiment on them by proposing a roundabout for an intersection. I have stacks of written comments from the locals telling us how stupid we were and how dangerous it was going to be. After it was built, I had one phone call that was negative and that was because they were not happy with how much it cost to build. There was a total change in the perception of the roundabout at that location. Our district folks like it so much, they are proposing another one not far away from the first."

Georgia DOT
Marion Waters, Office of Traffic Operations Director
Please direct inquiries to Phillip Allen, State Traffic Safety and Design Engineer-
Phillip.Allen@dot.state.ga.us
- Public meetings

"Georgia has limited experience with recent installations of modern roundabouts. Only two installations have been completed so far, but these have been very successful, with a limited number to be installed in the future based on what has been learned. Modern roundabouts seem to work well as replacements for four-way stop intersections and in low speed urban areas. In both cases to date, local governments were involved and local hearings (more like town meetings) were held to discuss the options and inform the interested and concerned public. In both cases, it appears that vehicle crashes have been reduced and the operation of the intersections has been good."

Nevada DOT
Scott Thorson, Traffic Engineering Section Chief
sthorson@dot.state.nv.us
- "Open forum" public meeting; newspaper articles; displays; video; brochure.

Scott has guided the installation of three DOT roundabouts in Las Vegas and three in Reno. The first project involved a four-way intersection in Reno about two years ago. The intersection was a four-way stop that suffered

serious backups in two of its legs during the peak hours. It had been the scene of some horrendous crashes. The thinking at first was to upgrade to four-way signaling to improve the situation. However, a computer analysis of the intersection was performed with NetSim (network simulation) software, and showed that a roundabout would do a better job at traffic management. The projection was 40 to 60-second delays signalized but only 10 seconds as a roundabout.

One of Scott's initial efforts to promote the roundabout to the public took place in a middle school about two blocks down from the intersection. "Sometimes the traffic would back up all the way to the school," Scott says. "Still, some of the local folks didn't like the idea of roundabouts. This would be the first one in the state and a lot of people were skeptical. I decided to try an 'open forum' instead of a straight presentation. I set up some good displays for people to move around and look at, and I just talked with them—provided information in an informal, conversational way. I could sense they liked it, and it seemed to encourage them to ask more questions. I had built one of the displays on a 4 X 8 sheet of plywood, and it used little cars to show how drivers would use a roundabout. I showed videos of roundabouts operating in other parts of the state. I also had an informational brochure made up for people to take home with them. The idea for the brochure came from one that I'd seen from California—a pretty basic 8.5 X 11 three-fold in color. Not too fancy—just enough to be catchy.

"To reach more people, we gave two articles to the local newspaper that told readers we were going to try a roundabout, provided basic information on roundabouts, explained how we were going to build it, and described the way to drive it.

"In the overview, I think that two of the most important things are to get the word out early and to keep your message from being too technical."

City of Reno (NV)
Wayne Nash, Assistant Civil Engineer
NashW@ci.reno.nv.us

- TV public service video.

Wayne worked for Scott at NDOT as a Traffic Designer for 23 years before joining the City of Reno in 2000. Wayne's idea was to create of short, public service video explaining roundabouts that would be shown periodically on local TV. "The City was interested in educating the public about roundabouts, and this seemed like a good way to pump up the program at low cost.

"In this part of the West, you don't have a lot of roundabouts, and some people get pretty teed off at the prospect of one going in. They want their signals—period. Part of our goal for public education was to make driving in a roundabout safer for everyone. As plans developed for the video, I learned that the local TV station would do the filming and production for a low fee, because it would be a public safety/public awareness spot. A co-worker and I developed the script: how to enter a roundabout, who yields, how to deal with bicycles, benefits of roundabouts... I also came up with an acronym that we would promote in the video: 'Y.E.S,' for Yield, Enter, Slowly- Yes you can! We decided to do most of the acting and narration, and contacted the fire department for more actors. They were great—they brought fire trucks and busses through the roundabout, and helped demonstrate safe pedestrian and bicycling practices. The video came out with a run time of about four minutes, and a year later continues to air regularly in prime time on local TV. We're sharing it with other municipalities.

"I think it's very possible for a DOT to do a video like this. You can probably find someone with an understanding of production in the public information office—a photographer, a videographer. You do want someone who has a good sense for lighting. For the acting and narration, it helps if you can find folks who are a bit charismatic."

Wayne invites requests for a free copy of the video: email to his address above.

Vermont DOT
Steve D. Edwards, Traffic Engineering Division
Steve.Edwards@VirginiaDOT.org
"Except for having an engineer from Australia present his seminar in-house on 'Roundabouts,' VDOT did not initiate any statewide efforts for placement of permanent roundabouts until it became obvious that they weren't going away, but were more appropriate, effective and safer than signalized intersections under certain circumstances. Simply: VDOT listened to its customers and responded proactively.

"VDOT started receiving requests from 'developers' and 'engineers' with experience on roundabouts back in the early 1990s. In 1997, at the request of one of our District Engineers, a 'Value Engineering' team was formed, consisting of a Traffic Engineer, Road Design Engineer, Research Scientist from the Virginia Transportation Research Council, Transportation Planner and V.E. Regional Manager. For two days we evaluated reports and experience from other states and several consultants, along with other available material on roundabouts. This task resulted in VDOT basing future approvals of roundabout applications on Maryland's guidelines (http://www.sha.state.md.us/safety/oots/roundabouts/safety.asp) until such time the USDOT's *Roundabouts: An Informational Guide* became available. Presently the USDOT document is used.

"We have received and approved several requests for roundabouts, providing input from an operational and safety perspective for the most appropriate designs to localities and developers."

PART C- GUIDELINES FOR MARKETING ROUNDABOUTS

Expert suggestions for constructing and waging a campaign may be found in the FHWA Roundabouts Guide cited in Part A above. To view, open http://www.tfhrc.gov/safety/00068.htm, click on Chapter 2, click on Section 2.5 in the Bookmarks panel and scroll to Section 2.5.1. (Exhibit 2-6 provides examples of published informational brochures.) Excerpts from the content of this Section:

- "A wide variety of techniques have been used successfully in the U.S. to inform and educate the public about new roundabouts. A public involvement process should be initiated as soon as practical, preferably early in the planning stages of a project while other intersection forms are also being considered…
- "Public meetings can be a good forum for bringing the public into the design process…
- "A number of agencies, including the Maryland State Highway Administration and the City of Montpelier, VT have used informational brochures…
- "A number of agencies and consulting firms have prepared videos…
- "Media announcements: given the new nature of a roundabout in many communities, the local media (newspaper, radio and television) are likely to become involved…"

Local media

- Newspaper. Get acquainted with the style and content of current newspaper articles about roundabouts. Visit http://www.roundaboutsusa.com/ and scroll down to "Articles" for links to an excellent assortment.

  Arrange to meet with the editor(s) of your local newspaper(s) to present your request for assistance, and to talk about topics and events that may deserve coverage. Bring along printouts of some of the upbeat articles that you've found on the Web and several of your informational brochures. During conversation highlight the fact that roundabouts are documented to be safer (have some statistics at-hand), move traffic smoother and faster, are more aesthetic and kinder to the environment. Float the idea of publishing a supportive editorial, one that encourages goodwill toward the roundabout.

- Television. Arrange to meet with the director(s) of the TV station(s) serving the area to discuss the possibility of taping and airing a public service announcement. Some things to remember: you would like a cordial feel for the video, enthusiastic narration, mention of safety statistics, and the display of a phone number and/or Web address for a DOT contact in the event of questions.

Local officials

Arrange to meet with leaders of local government, affected utilities, Fire and Police, education and civic groups to talk about plans for the roundabout, get feedback and request their support. You may wish to bring along some of

the visual aids (display, PowerPoint, video) that you and the Office of Public Affairs have created. Have your informational brochure available for pickup.

Police and local business
Discuss the possibility of setting up a dummy roundabout in a parking lot, and staging a driving clinic for larger vehicles.

The public
Stage at least two town meetings in which you present information and field questions. Have your informational brochure and printouts of positive press articles available for pickup. Provide the coffee, relax and smile.

Additional, helpful resources
http://roundabout.kittelson.com/ links to a listing on roundabouts that includes articles and papers, books, design guides and videotapes on various subjects regarding modern roundabouts.

http://www.engr.orst.edu/~taekrtha/round.html provides an easy-to-scan, columnar listing of the advantages and disadvantages of roundabouts, and features that distinguish modern roundabouts from traffic circles.